Listing and Amendments to the Claims

This listing of claims will replace the claims that were annexed to the International Preliminary Report On Patentability:

1. (currently amended) A method for controlling a pick-up for reading data streams from a storage medium, the data streams being distributed to more than one file on said storage medium and being separately intermediately buffered after reading, and after intermediate buffering the data streams being continuously read from the buffers and being used for simultaneous reproduction, wherein said buffers have different individual output data rates and buffer sizes, and wherein the buffer with the highest output data rate relates to a first data stream ~~(S1)~~, the method comprising:
   - detecting individually for the separate buffers that the remaining amount of buffered data is below a threshold;
   - upon said detection, generating and scheduling a request for the pick-up to read data from the corresponding data stream for filling the buffer, wherein the request indicates the respective data stream to be read, and wherein each of said buffers generates an individual average number of requests per time interval (f) resulting from its output data rate, its size and said threshold;
   - upon the pick-up serving said request, reading data from the indicated data stream and buffering the read data in the corresponding buffer, wherein the average number of requests per time interval of the buffer that relates to said first data stream ~~(S1)~~ is a first number, and the average number of requests per time interval of another of said buffers relating to another ~~(S2,S3)~~ of said data streams is an integer ~~(λ)~~ multiple of said first number, the integer ~~(λ)~~ being at least two.

2. (currently amended) Method according to claim 1, wherein at least three data streams ~~(S1,S2,S3)~~ are read.

3. (currently amended) Method according to claim 2, wherein the integer ~~(λ)~~ is the same for all said other data streams ~~(S2,S3)~~.

4. (original) Method according to claim 3, wherein the data streams comprise at least a video stream, an audio stream and a subtitle stream, with $f_{Video} = \lambda$. $f_{Audio} = \lambda$, $f_{Subtitle}$.

5. (currently amended) Method according to ~~any of the previous claims~~ claim 1, wherein during initialization first said other data streams ~~(S2,S3)~~ and then said first data stream ~~(S1)~~ are read from the storage medium.

6. (currently amended) Method according to ~~any of the previous claims~~ claim 1, wherein during initialization the buffer for the first data stream ~~(S1)~~ is filled completely, and the buffers for the other data streams ~~(S2,S3)~~ are filled only partially.

7. (currently amended) Method according to ~~any of the previous claims~~ claim 1, wherein during initialization the order of reading the data streams ~~(S2,S3)~~ other than said first data stream ~~(S1)~~ from the storage medium is identical, or reverse, to the order that said other data streams ~~(S2,S3)~~ have on the storage medium.

8. (currently amended) Method according to ~~any of the previous claims~~ claim 1, wherein also data streams are read from said storage medium that are not subsequently buffered.

9. (currently amended) Apparatus for reading data streams ~~(S1,S2,S3)~~ from a storage medium, the data streams being distributed to more than one file on said storage medium and being separately intermediately buffered after reading, and after intermediate buffering the data streams being continuously read from the buffers and being used for simultaneous reproduction, wherein said buffers have different individual output data rates and buffer sizes, and wherein the buffer with the highest output data rate relates to a first data stream ~~(S1)~~, the apparatus comprising:

- a pick-up for reading the data streams from said storage medium;
- means for detecting individually for the separate buffers that the remaining amount of buffered data is below a threshold;
- means for requesting the pick-up to read data from the corresponding data stream for filling the buffer, wherein the request indicates the data stream to be read, and wherein the average number of requests per time interval ~~(f)~~ is individual for each of said buffers, resulting from its output data rate, its size and said threshold, with the average number of requests per time interval of the buffer that relates to a first data stream ~~(S1)~~ being a first number, and the average number of requests per time interval of another of said buffers relating to another ~~(S2,S3)~~ of said data streams being an integer ~~(λ)~~ multiple of said first number, the integer ~~(λ)~~ being at least two; and
- means for scheduling said request before being served by the pick-up.

10. (currently amended) Apparatus according to ~~the previous claim~~ claim 1, wherein said storage medium is an optical disc and wherein said first data stream ~~(S1)~~ is a video data stream and said other data streams ~~(S2,S3)~~ comprise audio data and subtitle data.

Amendments to the Abstract

Please **amend** the Abstract to read.

-- A method for optimizing a scheduler for an optical pick-up reduces the pick-up jump frequency and the initial start-up time for reproduction. The pick-up reads data streams from different files on an optical storage medium, e.g. Blu-Ray disc, and buffers the data streams in separate buffers, e.g. for video, audio and subtitles. Buffer sizes are optimized when the video buffer ~~(B_1)~~ is as small as possible, i.e. large enough to bridge the pick-up access and read times for the other streams ~~(J, S_2, S_3)~~, and the buffers ~~(B_1')~~ for the lower rated streams are extended ~~(bx_1)~~ such that the pick-up access frequency for lower rated streams is an integer multiple of the pick-up access frequency for the highest rated stream, usually the video stream. Initial start-up time is minimized by filling the buffers initially only to a minimum required level. --